

Title (en)

A METHOD FOR OPERATING A WIND FARM AND A WIND FARM

Title (de)

VERFAHREN ZUM BETRIEB EINES WINDPARKS SOWIE WINDPARK

Title (fr)

PROCÉDÉ DE FONCTIONNEMENT DE PARC ÉOLIEN ET PARC ÉOLIEN

Publication

**EP 4191055 A1 20230607 (EN)**

Application

**EP 21212570 A 20211206**

Priority

EP 21212570 A 20211206

Abstract (en)

A method for operating a wind farm having a string (S1-S3) of wind turbines (100-100d) which are electrically connectable with each other and a grid (510, 550) via power connections (Cab-Cd) is disclosed. Each wind turbine includes a rotor (106) with rotor blades (108), and a power conversion system (118, 210, 238) mechanically connected with the rotor (106). The method includes disconnecting the string (S1-S3) from the grid (510, 550), and identifying a primary wind turbine (100a, 100c) of the disconnected string (S1-S3) which is electrically connectable with at least one secondary wind turbine (100b-100d) of the disconnected string (S1-S3). The power conversion system (118, 210, 238) of the primary wind turbine (100a, 100c) includes a reactive power capability (RPC) that at least matches a reactive power (RP) of a cluster (C1, C11, C12) to be formed by electrically connecting the primary wind turbine (100a, 100c) with the at least one secondary wind turbine (100b-100d) of the disconnected string (S1-S3).

IPC 8 full level

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CPC (source: CN EP US)

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Citation (search report)

- [IY] EP 2072813 A2 20090624 - GEN ELECTRIC [US]
- [A] US 2012136494 A1 20120531 - KIRCHNER ANDREAS [DE], et al
- [A] EP 3034868 A1 20160622 - GEN ELECTRIC [US]
- [YA] EP 2236821 A1 20101006 - XEMC DARWIND BV [NL]
- [A] ANUBHAV: "Control solutions for blackstart capability and islanding operations of offshore winf power plants", 17 October 2018 (2018-10-17), XP055560280, Retrieved from the Internet <URL:http://orbit.dtu.dk/files/158921420/WIW18\_097\_posterpaper\_Anubhav\_Jain.pdf> [retrieved on 20190221]

Designated contracting state (EPC)

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